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ABSTRACT

This paper defines the scope of activities of the joint Georgetown University-MITRE Corporation planning group to design a learning resource center (LRC) for Georgetown. The functions of an LRC are described. It was intended to elicit comments from the faculty at Georgetown. Questions for each department to discuss, concerning its goals and how those goals could be furthered by an LRC, are raised. Appendixes give a history of the MITRE-Georgetown agreement and some scenarios of the activities of the LRC. (JK)

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THE MITRE CORPORATION

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WHAT A LEARNING RESOURCE CENTER (LRC) COULD MEAN FOR GEORGETOWN UNIVERSITY

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OCTOBER 1971

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This document has been approved for public release.

THE MITRE CORPORATION
WASHINGTON OPERATIONS

ABSTRACT

This paper is intended to elicit the Georgetown University faculty's thought and discussion. It defines the scope of activities of the joint Georgetown University-MITRE Corporation Planning Group to design a Learning Resource Center (LRC) for Georgetown. It outlines the problem, describes the approach of the Planning Group, poses questions for directed interviews with the departments and schools, and specifies tasks to be completed. Appendices give: (1) a history of the MITRE-Georgetown agreement, and (2) some scenarios of the activities of the LRC.

ACKNOWLEDGMENT

An early version of this document was reviewed and improved by the comments and contributions of other members of the Planning Group and the Faculty Advisory Committee which approved the final draft. Membership of those groups is listed in Appendix I. The authors extend thanks to all who have participated in preparing this paper.

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SECTION I

INTRODUCTION

This paper is the product of the Planning Group to design a Learning Resource Center (LRC) for Georgetown University. The Planning Group represents a combination of faculty and administration people from Georgetown University dedicated to advancing educational technology and of individuals from The MITRE Corporation of McLean, Virginia, experienced in the problems and potentialities of educational innovations and technology. A brief history of the development of this project at Georgetown is given in Appendix I.

The Planning Group is to spearhead the development of such a center. They are to investigate the needs of faculty members, explore innovative thinking and technology that might meet these needs, and propose a design for the center both administratively and structurally that would be uniquely adapted to the special learning community that is Georgetown. To do this they must become aware of the educational innovations that already exist at Georgetown, and the problems faculty members and students are having in utilizing them. They must take a long hard look at the future (growing enrollments, increased information demands, etc) and try to visualize a system and services for the center that will be flexible enough to accommodate future needs as well as the pressing issues facing us today.

The Planning Group needs the active interest and involvement of all of us at Georgetown; students, faculty and administration. We hope this concept paper will be a useful starting point for discussion. We are anxious that the final plan for the center be neither the limited view of some small planning committee nor a carbon copy of what another university has found useful. We hope it will be a custom designed facility incorporating the ideas of the whole Georgetown community and uniquely meeting its needs.

Initially, meetings will be held with all departments; faculty members are encouraged to submit their ideas on requirements for a Learning Resource Center at Georgetown, and the problems they see in actually making modern technology work for each of us. We earnestly solicit active involvement in and support for this venture from all of you.

Each reader is asked to consider carefully the concept of the Learning Resource Center and to develop some specific ideas about the capabilities it should have to be useful to him. The Planning Group must have this participation to ensure that the design it proposes is responsive to the requirements of all disciplines and of many individuals. The result of our work can have a major impact on the educational process at Georgetown. We have both great opportunity and great responsibility in this undertaking.

SECTION II

DEFINITION OF A LEARNING RESOURCE CENTER

What is a Learning Resource Center? Perhaps it is easier to begin by saying what it is not. A Learning Resource Center is not just a specific place. Nor is it merely a collection of tools, such as computers and tape recorders.

Ideally, of course, a Learning Resource Center should be a community of well-trained people adequately equipped with educational facilities located in attractive places to encourage and help students and teachers communicate, investigate and learn together as a team. Translating that idea into a realistic system of services and materials for our particular educational needs at Georgetown, however, is difficult.

PLANNING FOR A LEARNING RESOURCE CENTER

The question of a Learning Resource Center comes up at this particular time because a new building is going to be built. In the past this would have called for nothing more than a classroom building filled with lecture halls of various sizes--the problem could almost immediately be turned over to an architect. However, many of the faculty already feel the pressure of increasing student enrollment. Projections indicate further increases. Almost everyone admits that education has never been as effective as faculty or students would like it to be. Some faculty judge that our traditional procedures are good but should be supplemented by technology to deal with larger numbers. Others realize they have lost contact with individual students and cannot teach effectively. They are seeking either supplements or alternatives to current practice, which could restore disappearing personal relations. Still others believe that lectures should not be the main, and nearly only interaction and vehicle for the transmittal of information from professor to student. They want totally

new ways for education. Obviously, different faculty members would use a Learning Resource Center in different ways and to different extents according to their emphasis, but all the factors mentioned above seem to suggest a community center that will bring staff, student and learning together in a variety of ways. The attempt to bring students and faculty in contact with each other on a more individualized basis calls for a setting quite different from the usual classroom structure.

The projected new building could provide the environment for whatever new functions the faculty and student body think appropriate. The new building, then, merely provides the occasion for us to think about new techniques of education. In one sense a Learning Resource Center is not just a specific place. It is not merely a collection of tools and hardware be they slide projectors, T.V., film loops, tape recorders or computers. A Learning Resource Center may use tools, and the activities of using them may take place at one or several locations; but the important thing about the Learning Resource Center we are attempting to define in terms of functional requirements is that it is a community system. By community system we mean here the comprehensive network of interpersonal relationships under which students and faculty meet each other and interact with learning materials and tools. A system that will make it possible to educate and inform individual students in ways that are appropriate and adjusted to each student's past performance and current understanding. A system in which evaluation can be diagnostic, leading to suggestions for correction and advancement. A system in which, because education and information are adjusted according to each student's progress, the goal can be excellence in that we can work with a student's abilities, motivation and effort until mastery is achieved.

Through the use of technologic support it appears that the quality of learning can be improved and that, perhaps, education

could be made more productive. The aim of all the innovations under consideration--organizational, curricular, technologic--is to adapt instruction more precisely to the needs of each individual student. The uses of technology to which faculties and students usually object are those in which the technology is used just as an expedient means of reaching large numbers of students, or as a replacement for ordinary classroom teaching. Educational technology, when used effectively, in support of good teaching, offers potential benefits: more individualized, self-paced instruction; the possibility of applying research findings to improve teaching and learning; more access to rich learning environments; and the possibility of greater productivity.

The Learning Resource Center system is a supporting subsystem within the University. The resource center does not define the goals of the learning it supports; it accepts the goals of the faculty and the students. It exists for the purpose of extending and enhancing learning, through the use of an appropriate combination of human and material resources. Clearly, then, course content, methodology and other academic requirements would continue to be defined by the faculty of the various departments and the appropriate committees of the schools within the University.

From what has been said so far, the projected use of the center could take many forms. Some staff may, in fact, use it merely as a central supply house where projectors are stored, while others use it more extensively as a place where, with the aid of supporting staff, teaching materials can be developed. For others it might be a place to send students to work on programmed instruction units to supplement the regular course materials and lectures. Still others may wish to send students on a referral basis to the center to work through specially constructed materials and programs designed to identify areas of deficiency that are causing difficulty in their normal course work. Some staff may wish to use the center as a place to construct

and try out programmed units, to engage actively in developing the software the center will need. Finally, some staff may wish to use the center to experiment with teaching in new and untried ways, moving their courses to the center as an alternative to normal practices they find ineffective. This suggests the center must be a place where resources are cataloged and stored, supplemental material is available, teaching programs are developed, parts of courses and whole courses can be taught, and educational research can be undertaken.

The continuum of possible modes of use may even extend to one with an emphasis on diagnosis and development, a consulting service for faculty members who may feel that a change is needed in their teaching approach, but who are not sure what would be the best way. For example, a professor may feel that his advanced philosophy class is so formal that discussion is stifled, yet he is also aware of the pitfalls of an undisciplined rap session. He might consult the center for advice and insight into ways of encouraging discussion without losing direction and the comprehensiveness of critical analysis. Some further examples of possible uses are described in scenario form in Appendix II.

At the point when we have described the center that will provide all imaginable services for all kinds of users, administrators will have to step in to remind us that there are fiscal constraints. For that reason, it will be necessary to specify priorities and goals for initial and for incremental developments. Faculty and student views on priorities are therefore needed.

DEVELOPMENT OF EDUCATIONAL TECHNOLOGY AT GEORGETOWN UNIVERSITY

Today at Georgetown some of the rudimentary forms of equipment and techniques required for realizing the potential of educational technology are on hand. A recent inventory of audio visual equipment at Georgetown University showed 53 motion picture projectors, 82 slide

projectors, 277 audiotape recorders, 20 television cameras and 150 television monitors, and a wealth of other equipments. What is here is scattered and maintained by users in a variety of ways. No university-wide standards exist for this equipment. There are almost no facilities nor production staff support available to the Main Campus faculty or students for preparing materials to be presented through use of this equipment. Few classrooms are permanently equipped for use of these media aids. As a result, the problems of developing resource materials for use in class are presently almost insurmountable. There is even greater difficulty in preparing other than written resource materials for independent use by students to enrich their learning experience.

This is not to imply that there are not some excellent programs in being. The Planning Group has tried to become acquainted with existing programs and equipment. It has found many good, isolated uses of educational technology; but it finds also that there is no coherent, overall system to support the most effective use of what now exists and what will be developed over the next several years.

The design program being undertaken by the Planning Group is aimed at easing the development and use of learning resource materials. Within five years we anticipate that there will be continued rapid growth in the educational "hardware" technology. More important, there will also be growth in the development of techniques and procedures for using the new equipments.

Instructional units or packages--about as long as a chapter in a typical textbook with others shorter or longer in information content--will be prepared for dozens, initially, and perhaps for thousands of blocks of material, eventually. Just as textbooks developed at one university are used at others, instructional materials can be published, exchanged or otherwise disseminated.

These will be developed by faculty members assisted by a team from the Learning Resource Center. Faculty members will become familiar with media equipment and techniques. Students will use the additional resource materials at the Center or in remote locations which may include their classrooms, homes, dormitory rooms or even their cars--wherever they interact best with the type of material presented. In short, there will be a far more complete system of supporting media services available to the members of the Georgetown community. Origination, storage, delivery, and interaction with resource materials will be coordinated by the LRC. How well the capabilities of the LRC will meet the unique needs of the faculty and students of the future depends heavily on the plans we shall be developing in 1972 and carrying forward from that point.

Students will use the Learning Resource Center in more ways than those implied by the descriptions above. Because the effort of organizing materials to teach someone else has been observed to have a beneficial effect on a person's own grasp of the material, students can be encouraged to prepare teaching materials from some section of learning that interests them and their classmates.

The understanding of some specialized course material, such as is demonstrated typically by a seminar presentation or a traditional term paper, can be shown with media other than the conventional seminar talk or the typed paper. In addition to using new media for their own presentations, teachers will be aided by the staff of the Learning Resource Center to allow, encourage, and sometimes require their students to use new media for special projects in place of term papers and seminar talks. Slide-tape presentations and video tapes may become commonplace someday, in lieu of conventional print presentations and seminars. If the flexibility to accept a video tape in place of a thesis or dissertation does not exist, perhaps it can be

cultivated. All these strategies would enrich both the resource holdings of the Learning Resource Center and the experience of the users.

Some educational innovations use no hardware at all. Instead they depend heavily on the process orientation of educational technology and on the reinforcement of learning through helping other students. In the Psychology Department, today, the Personalized System of Instruction (PSI) operates so that the students who first complete a unit of instruction with perfect scores can become proctors for that unit and take on the functions of grading, guiding and interviewing classmates. The result reported is a constantly changing group of proctors, all working at high rates. Every student masters the material, and bright students find an extra challenge. Research indicates that the proctors learn more than anyone else, confirming the idea that teaching aids one's own learning.

Language laboratories, various programs of computer-assisted instruction, programmed texts and other materials are typically used for a variety of drill and practice exercises as well as for the step-by-step introduction of new information. All of these are part of the kit of tools that support the Learning Resource Center. Like the library, they would also be expected to be available as much of the day and night as feasible, because one of the important aspects of this library of capabilities is its casual accessibility. Teachers and students should be able to drop in with a good idea at any time and accomplish something concrete without too much waiting for assistance or equipment. Various types of assistance--other students, technicians, professionals--will be available at all times.

EVALUATION

In those courses in which the criteria of mastery are used, and in which students are asked (and aided) to repeat until excellence is achieved, the usual group statistics do not apply. Then, evaluation of students on an individual basis shifts the emphasis of testing to the use of evaluation itself as a learning device, showing competence or indicating what further study is necessary.

The evaluation of the center itself is a measurement of how effectively the center serves the needs of the individual student or instructor to attain his educational goals. The overriding consideration seems to be whether the Learning Resource Center makes it possible for departments and schools of the university to feel that they are successfully managing to teach as many students as they want to teach all the material they believe should be mastered in their discipline to a level of excellent performance.

SECTION III

DEVELOPING A DESIGN PLAN

This paper was intended to describe some of the possibilities that come to mind in terms of designing a Learning Resource Center. The Planning Group* is to propose one or more alternative designs as a result of its investigations and conversations. This concept paper is intended to raise questions and to stimulate dialogue. In meetings with groups of faculty members and students, the Planning Group will follow a procedure of directed interviews, encouraging full, free discussion, but attempting to explore the interview subjects' thinking about a specific series of questions.

Following the series of interviews, expected to extend into December, the Planning Group will write a tentative design document specifying the functional requirements to be fulfilled by the Learning Resource Center. That draft paper will be the subject of review and revision by both the Faculty Advisory Committee* and the Committee on Educational Technology and Mass Media.* In addition, there will be discussion by faculty and student representatives prior to the preparation of a final design specification. The emphasis will be on innovations that may or may not depend on "hardware" but that are characterized by a technologic approach, by systematic definition of goals and of processes to achieve the goals, and by evaluation and feedback.

Some of the kinds of questions the Planning Group intends to discuss with every group include the following:

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*See Appendix I for membership.

(1) What parts of the instructional program in this department could be usefully designed with the aids available from a Learning Resource Center? What kinds of instructional aids appear likely to be especially useful?

(2) What instructional aids are being used or prescribed (e.g., library tapes) now in this department?

(3) Which institutions have excelled in the use of educational technology in your department's field?

(4) How could the center support department goals as they are perceived now?

(5) What goals does the department have for an individual student? How is evaluation of goal achievement being accomplished?

(6) To what extent can your department develop individualized instruction? How much flexibility can a student be permitted in his pursuit of the goal, excellence?

By means of answering questions like the ones above, the Planning Group intends to complete the following tasks:

(1) To identify a set of instructional programs that seem likely to be good candidates for media support and innovation at Georgetown.

(2) To develop the specifications for the production people and facilities that could fulfill the needs of the faculty and students. Educational technologists will serve as members of instructional design teams to support innovation in the instructional areas in which assistance is requested.

(3) To propose for faculty consideration new procedures that would provide for more appropriate recognition of the kind of effort required to design instructional programs. Just as scholarly

publications add to an educator's reputation and stature, so should innovative instructional designs.

(4) To propose a set of administrative support information requirements that the Learning Resource Center will need to:

(a) monitor student work and progress;

(b) validate tests and programs;

(c) store and retrieve blocks of instructional material; and

(d) describe the instructional blocks available.

(5) To define the information requirements of the learning center for quality control to manage its own operations.

Following the preparation, modification and acceptance of the design plan, the work of the Planning Group will be completed, and other institutional arrangements will be devised for the implementation planning phases. At every stage in the development of the Learning Resource Center, faculty participation is indispensable. It is the essential ingredient.

APPENDIX I

HISTORICAL BACKGROUND

There has been considerable interest on the part of some departments and schools within the University in the development of educational technology. This interest has been supported and encouraged by the university president. One of Father Henle's first official acts when he came to Georgetown in June 1969 was to broaden the responsibility of the Mass Media Committee to include educational technology. The reorganized Committee on Educational Technology and Mass Media consists at present of the following members:

Mr. Biagio John Melloni	Director, Department of Medical-Dental Communication (Chairman)
Mr. Joseph E. Jeffs	University Librarian
Rev. Daniel E. Power, S.J.	Director, Public Affairs
Prof. Joseph H. Sheehan	Associate Director, Master of Arts and Teaching English as a Second Language and Bi-Lingual Education
Rev. T. Byron Collins, S.J.	Special Assistant to the President

That committee unanimously agreed to request permission from Fr. Henle to invite The MITRE Corporation to submit an exploratory proposal for the committee's evaluation. Some members of the committee had become interested in MITRE's TICCIT computer system for educational use and had invited MITRE to consider joining with Georgetown University in a study related to the design, construction and implementation of a learning resource system at the University.

The MITRE Corporation is a not-for-profit organization chartered to work solely in the public interest. Although when it began in 1958, MITRE's efforts were committed primarily to support of the

national defense, the corporation has continued to diversify in areas of public concern where there is a need for MITRE's special professional capabilities. Transportation, housing, environmental improvement, tax administration, law enforcement, postal operations, weather studies, technology assessment and education have been some of MITRE's more recent fields of concern. The anticipated MITRE contribution to the Planning Group for the Learning Resource Center is described in the Letter of Agreement between Georgetown University and The MITRE Corporation. The letter appears as part of this appendix.

MITRE offers expertise and experience in systems design and implementation. It hopes to acquire greater skill in the assessment of requirements for educational technology through its participation in the deliberations of the Planning Group. Georgetown University has educational expertise and hopes to become a leading center for educational technology. A blending of essential skills is required to obtain an excellent design for a Learning Resource Center. The Georgetown members of the Planning Group are:

Dr. Joseph Pettit	Dean, School for Summer and Continuing Education (Chairman)
Mr. Dean Price	Director of Planning and Design
Dr. J. Gilmour Sherman	Chairman, Department of Psychology
Dr. Allen Tucker	Computation Center
Mr. Biagio John Melloni	Chairman, Committee on Educational Technology and Mass Media

The work of the Planning Group will constantly be reviewed by the Faculty Advisory Committee. Its members are:

Dr. Dorothy Brown	(History)
Mrs. Brenda Eddy	(SBA)
Dr. William Gregory	(Physics)

Miss Lucille Kinlein	(GUNS)
Dr. Ross MacDonald	(Linguistics)
Dr. Herbert Maisel	(Computation Center)
Dr. Jesse Mann	(Philosophy)
Fr. Eugene Poirier	(Economics)

At every point, the faculty has an opportunity to participate in the design of the Learning Resource Center. Individual faculty members can offer ideas through their department meetings, in written communications to the Planning Group, the Faculty Advisory Committee, the Committee on Educational Technology and Mass Media, and in general meetings.

LETTER OF AGREEMENT

TO WHOM IT MAY CONCERN:

Georgetown University and The MITRE Corporation hereby agree to collaborate in accordance with the provisions of this letter in an effort directed toward the design and construction of a Learning Resources Center (LRC) on the campus of Georgetown University and in the undertaking of education technology research and development programs for the LRC.

Georgetown University and MITRE will each assign a team of from three to six representatives to serve as members of the LRC Planning Group. Each of the two teams will function under the direction of its designated leader and the two leaders will cooperate to provide for a successful and expeditious completion of the project. Any question, problem, or disagreement which cannot be resolved by the two team leaders will be the subject of negotiation between the Vice President of Georgetown University for Academic Affairs or his representative and the Senior Vice President for Washington Operations of The MITRE Corporation or his representative.

The tasks of the LRC Planning Group are:

(1) Analyze the University's requirements for instructional capabilities which are to be satisfied by the Learning Resources Center.

(2) Develop a design for a total LRC system which will satisfy those requirements. The total system design will provide for an appropriate mix of computer aided instruction capability and audio-visual devices such as audio tape recorders, motion pictures, and television.

(3) Develop a plan and schedule for implementing the design.

(4) Monitor the construction and equipping of the Learning Resources Center.

(5) Develop proposals for education technology research and development programs.

All analyses, designs and plans emanating from the Planning Group will be reviewed and approved by an authorized official of Georgetown University. This approval must be obtained before the analysis, design, or plan is utilized in furthering the project. It is estimated that its work will be completed and the Planning Group will be dissolved within about three years from the time it is established.

The team from Georgetown University will provide for the Planning Group:

(1) The necessary background in education and educational technology to identify and explain the applicability of methods and techniques of instruction which should be included in the LRC.

(2) Interviews with members of the University administration and faculty, and access to data, as necessary to develop approved statements of requirements to be satisfied by the LRC.

(3) Any other critical information which may be privileged to the University but which must be known to the Planning Group if the LRC project is to be successful.

(4) Active participation in the work of the Planning Group.

The team from The MITRE Corporation will provide for the Planning Group:

(1) The necessary background in systems engineering to help develop a sound design and plan for the LRC. This background includes expertise in analysis of requirements for information systems, system design, and implementation planning.

(2) If required, the design for a TICCIT-type installation for computer aided instruction. (TICCIT: Time-Shared Interactive Computer-Controlled Information Television. TICCIT is being developed at MITRE and a pilot system is operational at the MITRE facilities at Westgate Research Park, McLean, Virginia.)

(3) Day to day active participation in the work of the Planning Group.

(4) Publication as MITRE documents of the results of the analysis, design, planning, and monitoring efforts of the Planning Group. The documents will show co-authorship, as appropriate, by University and MITRE members of the Planning Group.

MITRE's initial participation in the LRC project will be funded by MITRE. Georgetown University and MITRE will collaborate in developing an education technology research and development program. Sponsorship and financial support will be sought from federal agencies, the National Science Foundation or private foundations. MITRE may want to fund one or more such projects under its IR&D program.

R. J. Henle, S. J.
President
Georgetown University

for C. A. Zraket
Senior Vice President
Washington Operations
The MITRE Corporation

APPENDIX II

FURTHER EXAMPLES OF LRC SERVICE

As indicated in the body of this report, the Learning Resource Center (LRC) is conceived as a community center which helps support a dynamic, on-going process: a learning resource system. Briefly defined, the learning resource system is that process by which a variety of instructional capabilities at Georgetown may be utilized or developed.

Indeed, under that definition, Georgetown already has the beginnings of a learning resource system. Actions required to fill in some gaps and to begin to operate in a systematic fashion must be defined in the early stages of planning for the Learning Resource Center.

Some uses of the system will be student-initiated, and will range from simple requests for specific information and services to more complex demands for non-specific assistance. Others will be faculty-initiated, and will range over the same wide continuum. Sample scenarios for many kinds of possible activities follow.

STUDENT-INITIATED, SPECIFIC REQUESTS

If a student for some reason misses a scheduled lecture he knows that, for the course in question, he can go to the library, any time two hours or more after the end of the class, and request that the tape recording of the lecture he missed be played in one of the carrels. (This service would be possible today in terms of equipment available. Lacking today is the systematic planning to make sure that all the lectures are recorded for some number of key courses, and a way of getting the recordings indexed promptly so that they could be retrieved in time to be used in this way. Either students or professors should be able to request that lectures be recorded.)

For review or re-listening at any time during a course for which the lectures are recorded, a student should be able to request a copy, on cassette tape, of any of the lectures. Such a tape should be capable of preparation within an hour or two. The student might bring in his own cassette, or sign out one from the library stock. Then he would have it available for listening in his room, in his car, or wherever it suits him best.

STUDENT-INITIATED, LESS SPECIFIC REQUESTS

What about the student who transfers from a small junior college with limited offerings in mathematics to Georgetown University? In an economics course teaching intermediate theory, he is expected to have had enough calculus to understand what the lecture is all about. In 1971 his courses of action are limited if he is deficient in the basic mathematics: get some help from the professor, if the professor is willing and has time, or get help from other students, or drop the course and sign up for freshman math.

In a well-developed learning resource system environment, the student might seek out help from the LRC on his own, or perhaps the professor would say, "Every year I get a few students who need a little more work in basic mathematics, so last year I helped the LRC staff prepare a set of video-tapes and some programmed exercises. You can go to the LRC staff and they will give you a diagnostic quiz. On the basis of that, they will recommend which tapes you should review and which exercises you ought to do. I think if you can spend an hour or two a day on it for two weeks, you will be as competent as I expect students to be at the beginning of this course."

The same Economics professor may refer students to a set of standard computer programs for statistics: simple correlation, regression analysis and other techniques useful in his course. Students who are not quite sure what the routines are all about can

request the brief video-tape presentations the LRC staff has prepared to introduce the programs, or they can study written program documentation in the Computation Center.

In the above situation, the requests for the materials are student-initiated; but most of the impetus for the materials' preparation came from the professor teaching the course.

Advanced students and some professors may wish to work with the LRC staff and the Computation Center to develop computer simulation models as either research tools or teaching aids. The beginnings of this kind of activity have been undertaken already in the development of two simple economic models called "Consumer" and "Producer." Greater use of this kind of model in teaching is expected to be undertaken in the future, with more student participation in model development.

FACULTY-INITIATED, SPECIFIC REQUESTS

Suppose an instructor wishes to supplement the text in a particular course, either for presentation of new material or for testing a student's mastery. He could go to the LRC consultant to ask about the resources available for that subject. In addition to the index of materials held at Georgetown, the LRC would maintain an index of published materials in subject areas of interest, with evaluations of them if possible. Books, articles (in print or on microfiche), slide presentations, video tape instructional sequences, motion picture films and computer-assisted drill exercises might be considered. The instructor, upon reviewing the resources, could select one or more and make arrangements with the LRC for the times and places to have them available. Depending on the resources selected, the class might be scheduled to meet in a special classroom. For a computer-assisted drill or testing session, the instructor would notify the class of its availability. Each student, at his convenience,

would use the exercise by sitting at a typewriter terminal that might be located at the LRC, in the dormitory, or somewhere else on campus. The central computer would present the appropriate material, monitor the student's progress and keep a record for the instructor.

If the professor with a rather specific request finds nothing that suits him, it would be possible for him to ask the LRC staff to help develop the material he desires. Having a fairly precise idea of what he wants, the teacher can work closely with an appropriate communication specialist to transform his material into the presentation he wants. It might involve video-taping a demonstration, organizing and documenting a set of slides, or preparing a sequence of questions and answers in such a way that a computer could direct the drill exercise.

FACULTY-INITIATED, LESS SPECIFIC REQUESTS

If a professor goes to the LRC staff with a request for assistance in improving some aspects of one of his courses, perhaps by using some more modern innovations than blackboard and chalk, what is probably required is for a generalist on the LRC staff to sit down and discuss with him at length the concrete objectives of the course and the alternative ways in which the materials might be presented. Model development and instructional design undertakings represent a sophisticated level of activity in which the LRC staff serve as consultants in devising approaches to problem solution. Then, teams of specialists including the professor may be involved in implementing the designs.

Sometimes, the LRC staff will have to assist the professors using the LRC facilities to prepare the scholarly papers reporting the results of their innovations. Since the LRC will maintain quality control data for the center's own use, the staff will be in a position to provide data to faculty members who wish to publish papers about their new teaching techniques and materials.

The extent to which resource materials are used in a course is determined by the professor and the student, not by the LRC staff. To some extent, of course, the use of materials will depend on the capability of the learning resource system to make them available. The LRC collection of resources will be dynamic, changing with the needs of individual faculty members and departments.

It is not inconceivable that from time to time administrators may have suggestions for work to be undertaken by the LRC. If a Dean notes that there are a number of sections of some basic course in his school, and more and more students need that course, he might suggest that the five faculty members who teach the course be hired by the LRC as consultants for the summer to prepare some basic materials for individualized student use, in hopes that each instructor would be able to handle a few more students the following year because of the additional support of the prepared materials. Since the development of new materials for media presentation is a time-consuming business requiring subject-matter experts and instructional designers and technicians, an adequate system of rewards must be provided. This might take the form of a reduction in teaching load or additional compensation based on the anticipated long-range value of the contribution to the educational system; but it must certainly include professional recognition similar to that earned by writing books and articles.

The LRC would be a rich environment consisting of many different kinds of resources: people, places and things to be used by students and faculty according to needs. The spectrum of services and products must be broad. The services are to be supplied by a neutral group of educators including both generalists and specialists and providing both support and leadership in improving the educational process.